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EXAMINER	
MOONEY, MICHAEL P	
ART UNIT	PAPER NUMBER
2883	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/578,239	VAN NOTEN ET AL.	
	Examiner	Art Unit	
	MICHAEL P. MOONEY	2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 December 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16,19-35 and 37-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *32-35 and 37* is/are allowed.

6)☒ Claim(s) *1-14,19-31,38 and 39* is/are rejected.

7)☒ Claim(s) *15 and 16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *06 December 2010* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 12/6/10 have been fully considered but they are not persuasive.

The crux of Applicant's argumentation, particularly with respect to amended claim 1, is described when Applicant states on page 11 of the 12/6/10 Remarks, "Vincent discloses only that subassemblies 15 and 16 rotate and does not describe optical fiber F rotating through substantially 90°." The Office respectfully disagrees with the just quoted interpretation of Vincent. See infra.

First of all, the 12/6/10 (amended) version of claim 1 states that the rotation of the end of the fiber "through substantially 90°" is a rotation that is "with respect to the connector holder".

Relative to (or with respect to) the connector holder 60 [herein, sometimes connector holder 60 may be referred to as simply "60"; this type of nomenclature likewise applies for other parts/part numbers discussed infra] of Vincent et al. (herein "Vincent") {see and compare, for example, Vincent figs. 9, 11}, a fiber in the fiber carrier device(s) 123/123' appears to be rotating, since, as viewed from 60 the fiber is at one orientation, call it "orientation A", such as the orientation of a fiber that can be held in 123 of fig. 9 B (e.g., col. 7 line 65 to col. 8 line 32; col. 10 lines 60-65; col. 11 lines 35-67; figs. 9, 11).

Furthermore, as viewed from connector holder 60 in Vincent fig. 11, a fiber that is held in 123 would appear to be in a different orientation, call it "orientation B", than the said fiber held in 123 in said orientation A of Vincent fig. 9. In fact, with respect to/relative to the connector holder 60, it is safe to say that the said fiber held in 123 has been rotated between 50 ° and 75 °

when comparing said orientation A to said orientation B (e.g., col. 7 line 65 to col. 8 line 32; col. 10 lines 60-65; col. 11 lines 35-67; figs. 9, 11).

The above must all be understood with respect to relative motion. I.e., with respect to, or from the viewpoint of, connector holder 60 said fiber held in 123 has rotated between 50 ° and 75° in the motion that takes place from fig. 9 to fig. 11.

Additionally, the said fiber held in 123, may selectively undergo an additional rotation as a result of the impetus of rotation arm 25 depicted in fig. 11 (e.g., Vincent col. 5 lines 23-40). It is noted that the said arm 25 allows the carrier 123 to return to its initial position (e.g., Vincent col. 11 lines 35-41; col. 5 lines 23-40). Therefore, relative to the said connector holder 60, the said fiber held in 123 may rotated an additional selectable amount of up to 40° (e.g., up to 20° away from initial position of 123 and up to 20° back to said initial position of 123 for a total selectable additional rotation of from 0° to 40°; e.g., Vincent col. 11 lines 35-41; col. 5 lines 23-40). It is noted that any value between 0° and 40° may be added with sufficient specificity since Vincent reveals any value between 0° and 20° is specifically selectable and there is a to and fro motion of 123 (e.g., Vincent col. 5 lines 23-40). .

Thus, relative to the said connector holder 60, the said fiber held in 123 may be rotated between 50° and at least 115° with the ability to select a **pinpoint accuracy 90° rotation** based on the selectable 40° range mentioned in the above paragraph. I.e., since any value from 0° to 40° may selectively be added to a value in the range from 50 ° to 75°, a value of "substantially 90°" may always be selected for the relative rotation of the fiber held in 123 with respect to connector holder 60. Thus, it is correct to say:

Vincent teaches a device (e.g., figs. 9-12) for installing an optical fiber F F' (e.g., fig. 11) in a connector 1 and/or 2 (e.g., figs. 1-8; col. 1 lines 50-59), comprising: an optical fiber cleaving

mechanism (e.g., col. 7 lines 25-61; col. 11 lines 1-20); means for holding 60 an optical fiber connector 1 and/or 2 (e.g., fig. 9); and a fiber insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' (e.g., col. 11 lines 35-62); arranged such that an optical fiber F F' (e.g., fig. 11) may be cleaved by the cleaving mechanism 30 30' to produce an end of the fiber (e.g., col. 5 lines 50-60), and the end of the fiber may be inserted by means of the insertion mechanism into a connector 1 and/or 2 held by the connector holding means 60 (e.g., col. 11 lines 35-67) wherein the insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' rotates the end of the fiber between a cleavage orientation and an insertion orientation with respect to the connector holder 60, in order to insert the fiber into the connector 1 and/or 2, the rotation of the fiber by the insertion mechanism being through substantially 90 degrees.

It is noted that the language of the above claim (amended claim 1): 1) does not clearly define what a "cleavage orientation" and/or "insertion orientation" must be, and/or 2) does not necessarily require that "the rotation of the fiber by the insertion mechanism being through substantially 90 degrees" is a rotation that must occur as a subset of the rotation implied by "rotates the end of the fiber between a cleavage orientation and an insertion orientation with respect to the connector holder 60". Nonetheless, the rejection of amended claim 1 is appropriate.

Thus, Applicant's pertinent arguments at least with respect to amended claim 1 have been refuted at least by the above and/or that which is contained infra.

The Office respectfully disagrees with Applicant's 12/6/10 arguments which attempt to refute the obviousness rejections of Vincent in view of Tamaki et al. ("Tamaki").

On page 12 of the 12/6/10 Remarks, Applicant states "Vincent cannot be combined with Tamaki to produce Applicants' device." Whether or not Applicants' device can be produced is irrelevant regarding the rejected claims at least since Vincent and Tamaki can indeed be appropriately combined to produce Applicant's **claimed** device for all of the claims rejected

under Vincent -Tamaki combination (herein may be referred to as "Vincent -Tamaki"). See infra.

The modification of Vincent with the wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology of Tamaki (e.g, SEE: **Tamaki figs. 1-3, 7A-7B, 10** which were all clearly referred to in the 9/2/10 NFR {refer to at least page 9 of the 9/2/10 NFR} to refer to Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology [emphasis added]) does not change the basic principle(s) of operation of Vincent's device. The basic principle of operation of Vincent's device is depicted at least in Vincent figs. 9-11. Applying Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology provides improvements/benefits to the device of, e.g. Vincent figs. 9-11, at least by providing a device more amenable (e.g., eliminates the removal and reinsertion of component #2 of Vincent) to repetitive ease of insertion/extraction while still enabling an aligned state of the fibers/optical components. This plainly means Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology used in Vincent's invention provides a device more amenable to repetitive ease of insertion/extraction of optical fibers to/from the splice/connector at least since Vincent's component #2 is eliminated by virtue of the fact that Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology clearly does not have any use for Vincent's part #2 since Tamaki's wedges allow for ease of opening and closing of Tamaki's part number (#) 2. Tamaki's wedges of Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology provides a device more amenable to repetitive ease of insertion/extraction of optical fibers to/from the splice/connector at least since Tamaki's wedges are also more easily inserted/extracted to/fro Tamaki part #2 than anything proposed in Vincent [except for the fact

that Vincent actually invites modification to Vincent's device with respect to changing the module-carrier. (discussed infra)] (e.g, SEE Tamaki figs. 1-3, 7A-7B, 10 which were all clearly referred to in the 9/2/10 NFR to refer to Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology).

Vincent actually invites modification to Vincent's device with respect to changing the module-carrier. For example, Vincent col. 12 lines 20-24 states that it "must be understood" that Vincent's invention may be modified by changing to different/other module-carriers. I.e., Vincent is saying that the (e.g., splicing/connector) module Vincent teaches at, e.g. Vincent figs. 1-4, and the said module carrier 60 that Vincent teaches (e.g., see fig. 9) may be replaced by others. Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology is depicted, for example at (e.g., figs. 1-3, 7A-7B, 10; col. 10 lines 15-18). A good depiction of Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology is shown in figure 6, which is a cross-section of Tamaki fig. 1. Tamaki fig. 6 shows connector 1 in an open state (i.e., the wedges created an opening to allow the insertion of fibers into splice/connector 1). A more detailed depiction of Tamaki's splice/connector 1 is shown in Tamaki fig. 9.

Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology, continuing the example, shown in fig. 6 would allow for a fiber insertion mechanism taught by Vincent to insert fibers into both ends of a module/connector 1 that has the wedges inserted to create an opening allowing the insertion of the fibers. When the wedges are withdrawn a splice connector/connection is completed.

Thus the modification of Vincent using Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology provides a combination that that would not require

substantial reconstruction/redesign at least since the components are so analogous/complementary and/or have such similar purposes and/or are actually invited to be integrated/modified (e.g., Vincent col. 12 lines 20-24, see above).

Applicant did not convincingly address embodiments/configurations presented in the 9/2/10 non-final rejection (NFR) presented regarding Vincent-Tamaki. For example the said 9/2/10 NFR cites Tamaki col. 10 lines 15-18 which describe a wedge in a standard position configuration that allows fibers to be inserted from both sides. Inserting the fibers into the connector from both sides is analogous to an embodiment of Vincent (e.g., the fibers are shown Vincent fig. 11) where the fibers are inserted into a connector/sleeve where the wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology of Tamaki could provide the added benefit of, e.g., eliminating the need for component #2 of Vincent, and/or producing a connector device with more repetitive ease of insertion/extraction of the fiber(s) while still enabling a aligned state of the fibers/optical components to be achieved. Thus Applicant's response primarily to the subject matter of the cited Tamaki passages, e.g., the subject matter of Tamaki col. 12 lines 16-18, does not effectively obviate Vincent-Tamaki combination since the other/alternative aspects of Vincent-Tamaki presented in the 9/2/10 NFR were presented and were not convincingly overcome by Applicant's 12/6/10 Remarks.

It is important to note that Applicants' attempt to discredit the obviousness of Vincent-Tamaki particularly in the last paragraph of page 12 and the 1st and 2nd paragraphs of page 13 of the 12/6/10 Remarks is insufficient and unconvincing for several reasons.

First of all, that which is discussed by Tamaki at col. 12 lines 16-18, lines 44-50 are not the only implementation(s) of Tamaki with respect to Vincent-Tamaki combination (see above

discussions.). Additionally, Vincent-Tamaki, does not utilize Vincent's part #2 (see discussion below). It is noted that although the sliding wedge can be useful in Vincent-Tanaki, the instant application does not use a form of the word "slide" in the claims.

Furthermore, the 1st ¶ of page 13 of 12/6/10 Remarks incorrectly operates on the assumption that the immobilizing member part # 2 of Vincent is still being used. The 9/2/10 NFR plainly states the importance of utilizing Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology (e.g, SEE Tamaki figs. 1-3, 7A-7B, 10 which were all clearly referred to in the 9/2/10 NFR in reference to Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology). See also the discussion above, particularly regarding the 9/2/10 NFR's explicit statement that component/part #2 from Vincent is eliminated as a component since Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology involves using Tamaki's wedges/mechanism in junction with Tamaki's splice/connector 1 and/or 2; Tamaki figs. 1, 3, 6). Thus the discussion regarding using Vincent's component #2 "immobilizing member" is irrelevant since said Vincent # 2 is not a component in Vincent-Tamaki combination (e.g., see the rejections of claims 38 and 39 in the 9/2/10 NFR). Also, it is noted that Vincent-Tamaki may utilize a wedge in the standard position for at least two-sided insertion or moved to the side for a single side removal/insertion (Tamaki figs. 1, 3, 6 ; Vincent figs. 9-12; note also that Vincent re: fig. 12 also discusses the option of a variation of the device by dividing along XX).

To show the analogous nature Vincent's connector holder/cradle 60 to Tamaki's cradle/connector holder 13, the 9/2/10 NFR often refers to both 13 and 16, where 13 is from Tamaki and 16 is from Vincent. This is to enhance the reader's understanding of the analogous

nature of many aspects of Tamaki's parts with Vincent's parts (this at least helps to further illustrate the obviousness of combining the references) since the 9/2/10 NFR plainly states that it is Tamaki's wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology which allows for ease of insertion/extraction wedge mechanism depicted for example at Tamaki figs. 1, 6, 7A-7B, 10 to be used instead of Vincent's module carrier 60 and Vincent's module 1 and/or 2 splice/connector production enabling mechanism. Of course such a substitution would have been obvious to one of ordinary skill in the art at the time the invention was made at least since Vincent actually invites modification to Vincent's device with respect to changing the module-carrier mechanism which would involve providing alternatives/substitutes for Vincent's part #'s 60 , 1, 2, etc. Even viable alternatives to 69, 70, 71 may be provided since it is plainly obvious to one of ordinary skill in the art that alternatives/modifications/substitutes for Vincent's module-carrier mechanism won't all need a plunger 69 exactly as depicted in Vincent figs. 9-12. A version of a plunger 69 (e.g., Vincent fig. 9), for example, might be modified to depress a button such as # 33 in Tamaki fig. 6 for example which would allow for an assimilation of a version of for example fig. 6 of Tamaki to be substituted for the module-carrier mechanism of Vincent figs. 9-12 comprising parts 1, 2, 60 . Of course, the automated depression of a version of Tamaki fig. 6's button 33 by a version of Vincent's plunger 69 would eliminate the need for any handle 31 such as shown in Tamaki fig. 2. Also it is noted that modifying the cam/activation mechanism for the timing of the plunger movement involves only routine skill for one of ordinary skill in the art. None of these modifications would involve substantial reconstruction, since, in order to be "substantial" the modification would have to be something that is unobvious and/or would involve more than routine skill. The modification(s) mentioned and/or any modification

necessary for a working device to result from Vincent-Tamaki combination is in fact **unsubstantial**, at least since the said modifications involve only routine skill (e.g., see MPEP §§2144.06-2144.7 for supporting/additional rationale) and the benefits are clear from modifying the carrier-module mechanism of Vincent by substituting, for example, a version of Tamaki's fig. 6 for the said carrier-module mechanism of Vincent (see 9/2/10 NFR for further details).

The basic principle of operation of Vincent still remains after the obvious modification(s) via Tamaki. I.e., there is still all the basic structure shown in Vincent figures 9 or 12, for example, except the modification of the module carrier mechanism/structure by incorporating obvious improvements from Tamaki (see 9/2/10 NFR for further details).

Applicants' pertinent arguments from the 12/6/10 Remarks have been refuted. The 9/2/06 rejection is therefore essentially repeated below with modifications that were necessitated by amendment.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-14, 19-23, 26-29 are rejected under 35 U.S.C. 102b as being anticipated by Vincent et al. (US 5999682).

Regarding claim 1, Vincent et al. (herein may be also referred to as "Vincent") teaches a device (e.g., figs. 9-12) for installing an optical fiber F F' (e.g., fig. 11) in a connector 1 and/or 2

(e.g., figs. 1-8; col. 1 lines 50-59), comprising: an optical fiber cleaving mechanism (e.g., col. 7 lines 25-61; col. 11 lines 1-20); means for holding 60 an optical fiber connector 1 and/or 2 (e.g., fig. 9); and a fiber insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' (e.g., col. 11 lines 35-62); arranged such that an optical fiber F F' (e.g., fig. 11) may be cleaved by the cleaving mechanism 30 30' to produce an end of the fiber (e.g., col. 5 lines 50-60), and the end of the fiber may be inserted by means of the insertion mechanism into a connector 1 and/or 2 held by the connector holding means 60 (e.g., col. 11 lines 35-67).

Furthermore, Vincent et al. teaches wherein the insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' rotates the end of the fiber between a cleavage orientation and an insertion orientation with respect to the connector holder 60, in order to insert the fiber into the connector 1 and/or 2 (e.g., col. 7 line 65 to col. 8 line 32; col. 10 lines 60-65; col. 11 lines 37-42), the rotation of the fiber by the insertion mechanism being through substantially 90 degrees (e.g., col. 11 lines 35-67). It is noted that the pivoting of the cradle 17 and the carrier 123 at least amount to a rotation of substantially 90 degrees.

Thus claim 1 is met.

Regarding claim 2, Vincent et al. teaches a device according to claim 1, wherein the end of the fiber is inserted into the connector in a predetermined orientation with respect to the connector (e.g., col. 11 lines 35-67). Thus claim 2 is met.

Regarding claim 3, Vincent et al. teaches a device according to claim 1, wherein the cleaving mechanism 30 30' is arranged to cleave the optical fiber such that an end face of the end of the fiber so produced is oriented at a non-perpendicular angle with respect to the longitudinal axis of the fiber (e.g., col. 11 lines 1-35). Thus claim 3 is met.

Regarding claim 4, Vincent et al. teaches a device according to claim 3, wherein the insertion of the fiber into the connector by the insertion mechanism is such that the orientation of the non- perpendicular end face of the fiber with respect to the connector is predetermined (e.g., col. 11 lines 1-62). Thus claim 4 is met.

Regarding claim 5, Vincent et al. teaches a device according to claim 1, comprising a main body 12 within which the cleaving mechanism is located (e.g., figs. 9-12). Thus claim 5 is met.

Regarding claim 6, Vincent et al. teaches a device according to claim 5, wherein the cleaving mechanism 30 30' (e.g., figs. 10-11) may be accessed by an optical fiber F F' to be cleaved, only by insertion of the fiber through an aperture (e.g., see the aperture/gap in main body 12 through which fiber F passes and where 123 is located in fig. 11) in the main body 12 (e.g., figs. 9-12). Thus claim 6 is met

Regarding claim 7, Vincent et al. teaches a device according to claim 1, wherein the insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' manipulates the fiber in order to insert the end of the fiber in the connector (e.g., col. 11 lines 1-62). Thus claim 7 is met.

Regarding claim 8, Vincent et al. teaches a device according to claim 7, wherein the insertion mechanism14 14' 17 20, 20' 26 26' 123 123' moves the cleaved end of the fiber F F' with respect to the connector holder 60 in a direction along a longitudinal axis of the fiber F F', which axis extends from the cleaved end of the fiber, in order to insert the fiber in a connector 1 and/or 2 (e.g., col. 11 lines 1-67). Thus claim 8 is met.

Regarding claim 9, Vincent et al. teaches a device according to claim 8, wherein the axial movement of the fiber by the insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' comprises

movement of the insertion mechanism to a locking position at which the fiber is fully inserted into the connector (e.g., col. 10 lines 50 to col. 12 line 8; figs. 9-12). Thus claim 9 is met.

Regarding claim 10, Vincent et al. teaches a device according to claim 9, wherein, when the insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' is in its locking position, the insertion mechanism resists removal of the fiber out of the connector, and resilient means of the insertion mechanism applies an insertion force to the fiber (e.g., col. 10 line 50 to col. 12 line 8; figs. 9-12). Thus claim 10 is met.

Regarding claim 11 Vincent et al. teaches a device according to claim 1 wherein the insertion mechanism comprises a curved support (e.g., see the curved pillar(s)/column(s) of carrier carriage 14 that fiber F is retained by as seen in, for example, fig. 11) on which the fiber F is retained when the end of the fiber F is inserted into the connector 1 and/or 2 (e.g., col. 11 lines 40-60; figs. 9-12). Thus claim 11 is met.

Regarding claim 12, Vincent et al. teaches a device according to claim 11, wherein the curved support comprises an at least partial disc [e.g., the portion of the said pillar(s)/column(s) the fiber F contacts is the equivalent of a partial disk cross section], on the circumference of which the fiber is retained (e.g., col. 11 lines 35-67; fig. 11). Thus claim 12 is met.

Regarding claim 13, Vincent et al. teaches a device according to claim 1, wherein the insertion mechanism clamps the fiber during the cleavage of the fiber (e.g., col. 10 lines 15-20). Thus claim 13 is met.

Regarding claim 14, Vincent et al. teaches a device according to claim 13, wherein the clamping of the fiber by the insertion mechanism is maintained subsequent to the cleavage of the

fiber, until the fiber has been inserted into the connector (e.g., col. 10 lines 15-20; col. 10 line 50 to col. 12 line 8). Thus claim 14 is met.

Regarding claim 19, Vincent et al. teaches a device according to claim 1, wherein the connector holding means comprises a cradle 60 for a connector 1 and/or 2, which is movable with respect to the remainder of the device (e.g., col. 12 lines 18-19). Thus claim 19 is met.

Regarding claim 20, Vincent et al. teaches a device according to claim 19, further comprising a main body within which the cleaving mechanism is located, wherein the cradle 60 is movable across the main body 12 of the device between two opposite insertion positions, and wherein optical fibers may be inserted into respective opposite ends of a connector 1 and/or 2 held by the cradle 60 to form an optical fiber splice in the connector (e.g., figs. 9-12; col. 7 line 65 to col. 8 line 32). Thus claim 20 is met.

Regarding claim 21, Vincent et al. teaches a device according to claim 20, wherein the insertion mechanism rotates the end of the fiber between a cleavage orientation and an insertion orientation with respect to the connector holder (e.g., col. 5 lines 22-40; col. 11 lines 35-41), in order to insert the fiber into the connector, and wherein there are two opposite insertion orientations of the insertion mechanism, the insertion mechanism being situated on opposite sides of its cleavage orientation (e.g., this is true in Vincent at least since insertion mechanism components 123 123' are located on opposite sides such that there are 2 opposite insertion positions of the cradle 60), the opposite insertion orientations being for inserting fibers into a connector located respectively in the two opposite insertion positions of the cradle (e.g., figs. 9-12; col. 7 line 65 to col. 8 line 32). Thus claim 21 is met.

Regarding claim 22, Vincent et al. teaches a device according to claim 3, wherein the cleaving mechanism 30 30' is arranged to produce the non-perpendicular end face of the fiber such that the end face lies in a plane substantially perpendicular to a direction of insertion of the fiber into a connector held by the connector holding means (e.g., col. 5 lines 22-40; col. 11 lines 1-67; figs. 9-11). Thus claim 22 is met.

Regarding claim 23, Vincent et al. teaches a device according to claim 22, wherein the insertion mechanism rotates the end of the fiber between a cleavage orientation and an insertion orientation with respect to the connector holder (e.g., col. 5 lines 22-40; col. 11 lines 35-41), in order to insert the fiber into the connector, and wherein there are two opposite insertion orientations of the insertion mechanism, the insertion mechanism is situated on opposite sides of its cleavage orientation (e.g., this is true in Vincent at least since insertion mechanism components 123 123' are located on opposite sides such that there are 2 opposite insertion positions of the cradle 60), the opposite insertion orientations being for inserting fibers into a connector located respectively in the two opposite insertion positions of the cradle, and the non-perpendicular end faces of two fibers spliced in the connector are 180 degrees opposed, around a rotational axis comprising the longitudinal axis of the fibers (e.g., col. 5 lines 22-40; col. 7 line 65 to col. 8 line 32; col. 11 lines 1-67; figs. 9-11). Thus claim 23 is met.

Regarding claim 26, Vincent et al. teaches a device according to claim 1, further comprising at least one handle 11 which, when moved to an actuation position causes the cleaving mechanism to cleave an optical fiber (e.g., figs. 9-10). Thus claim 26 is met.

Regarding claim 27, Vincent et al. teaches a device according to claim 1, comprising a hand operated tool (e.g., figs. 9-10). Thus claim 27 is met.

Regarding claim 28, Vincent et al. teaches the use of a device according to claim 1, comprising a hand operated tool (e.g., figs. 9-10). Thus claim 28 is met.

Regarding claim 29, Vincent et al. teaches the use according to claim 28, wherein the connector 1 and/or 2 comprises at least two parts 1 and/or 2 between which the optical fiber is inserted by the insertion mechanism of the device (e.g., figs. 1-10). Thus claim 29 is met.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 24-25, 30-31, 38-39 are rejected under 35 U.S.C. 103a as being unpatentable over Vincent et al. (US 5999682) in view of Tamaki et al. [herein "Tamaki"] (US 6190054).

Regarding claim 38, Vincent et al. teaches a device for installing an optical fiber in a connector (e.g., figs. 9-12), comprising: an optical fiber cleaving mechanism (e.g., col. 7 lines 25-61; col. 11 lines 1-20); a connector holding means 60 (e.g., fig. 9); a fiber insertion mechanism 14 14' 17 20, 20' 26 26' 123 123' (e.g., col. 11 lines 35-62) arranged such that an optical fiber F F' (e.g., fig. 11) may be cleaved by the cleaving mechanism 30 30' to produce an end of the fiber, and the end of the fiber may be inserted by means of the insertion mechanism into a connector 1 and/or 2 held by the connector holding means 60 (e.g., col. 11 lines 35-67).

Vincent does not expressly teach "one or more wedge members that are movable with respect to the connector holding means to open a connector held by the holding means to enable the insertion of an optical fiber therein".

Tamaki teaches one or more wedge members 21 that are movable with respect to the connector holding means 13 to open a connector 1 held by the holding means 13 to enable the insertion of an optical fiber therein (e.g., figs. 1-3, 7A-7B, 10; col. 10 lines 15-18; col. 12 lines 26-33)

Vincent and Tamaki are combined by taking the technology of Vincent which teaches an insertion mechanism for inserting a cleaved fiber or fibers into a connector to form an optical connection and applying it to the wedge(s)-to-separate/open-the-connector-for-fiber-insertion technology of Tamaki to obtain the instant invention of an insertion mechanism for inserting a cleaved fiber or fibers into a connector using wedge(s) to separate/open the connector for fiber insertion. It would have been obvious to one of ordinary skill in the art at the time the invention was made to make such a combination for the purpose of providing a device more amenable (e.g., eliminates the removal and reinsertion of component #2 of Vincent) to repetitive ease of insertion/extraction while still enabling an aligned state of the fibers/optical components.

Thus claim 38 is rejected.

Regarding claim 39, Vincent and Tamaki combination (herein "Vincent-Tamaki") teaches a device according to claim 38, further comprising a main body 12 within which the cleaving mechanism 30 30' (e.g., Vincent figs. 10-11) is located, wherein the cradle 60 is movable across the main body 12 (e.g., cradle 60 of Vincent/cradle13 of Tamaki is moved across main body 12 of Vincent at least via pivoting component 17 of Vincent [e.g., Vincent figs. 9-11])

of the device between two opposite insertion positions (e.g., this is true in Vincent at least since insertion mechanism components 123 123' are located on opposite sides such that there are 2 opposite insertion positions of the cradle 60), and wherein optical fibers F F' may be inserted into respective opposite ends of a connector 1/2/4 held by the cradle 60/13 to form an optical fiber splice in the connector, and further comprising one or more wedge members 21 located adjacent to each insertion position of the cradle 60/13 (e.g., see in Tamaki fig. 8 where wedge 21 may be inserted through cradle 13 into connector 1), arranged to open respective parts only of a connector held by the cradle (e.g., see in Tamaki fig. 8), to allow the insertion of an optical fiber into respective opposite ends of the connector (e.g., Vincent figs 9-11; Tamaki figs. 1-3, 7A-7B, 8, 10). Thus claim 39 is rejected.

Regarding claim 24, Vincent-Tamaki teaches the use according to claim 1 (e.g., see also 102 rejection of claim 1 above in addition to the Vincent-Tamaki combination above), further comprising one or more wedge members that are movable with respect to the connector holding means to open a connector held by the holding means, to enable the insertion of an optical fiber therein (e.g., Tamaki figs. 1A-1B, 2). Thus claim 24 is rejected.

Regarding claim 25, Vincent-Tamaki teaches the use according to claim 24, further comprising a main body 12 (e.g., Vincent figs. 9-12) within which the cleaving mechanism 30 30' is located (e.g., Vincent figs. 9-12), wherein the cradle 60 is movable across the main body 12 of the device between two opposite insertion positions (e.g., this is true in Vincent at least since insertion mechanism components 123 123' are located on opposite sides such that there are 2 opposite insertion positions of the cradle 60), and wherein optical fibers F F' may be inserted into respective opposite ends of a connector held by the cradle (e.g., component # 60 in Vincent

and component # 13 in Tamaki) to form an optical fiber splice in the connector, and further comprising one or more wedge 21 (Tamaki figs. 1-3, 7A-7B, 8, 10) members located adjacent to each insertion position of the cradle , arranged to open respective parts only of a connector held by the cradle 13 (e.g., Tamaki col. 10 lines 15-18; col. 12 lines 25 -52), to allow the insertion of an optical fiber into respective opposite ends of the connector (e.g., Tamaki figs. 1A-1B, 2; col. 10 lines 15-18; col. 12 lines 25 -52; Vincent figs. 9-12). Thus claim 25 is rejected.

Regarding claim 30, Vincent-Tamaki teaches the use according to claim 29 (e.g., see the 102 rejection of claim 29 given above), further comprising one or more wedge members that are movable with respect to the connector holding means (e.g., Tamaki figs. 1A-1B, 2) to open a connector held by the holding means (Tamaki figs. 1-3, 7A-7B, 8, 10), to enable the insertion-of an optical fiber therein, wherein the parts of the connector are opened by the wedge member(s), thereby enabling the insertion of the optical fiber into the connector (Tamaki figs. 1-3, 7A-7B, 8, 10; Vincent figs. 9-12). Thus claim 30 is rejected.

Regarding claim 31, Vincent-Tamaki teaches the use according to claim 30, wherein the connector, and the wedge members 21 and the connector holding means 13 of the device, are arranged such that the wedge members 21 open only a portion of the connector at a time, to install an optical fiber in that portion of the connector while leaving another portion of the connector unopened (Tamaki figs. 1-3, 7A-7B, 8, 10; Vincent figs. 9-12). Thus claim 31 is rejected.

Allowable Subject Matter

Claims 32-35, 37 are allowed.

Claims 15-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art, either alone or in combination, does not disclose or render obvious wherein the curved support comprises an at least partial disc, on the circumference of which the fiber is retained, and wherein the clamping and retention of the fiber on the support is achieved by rotating a pivoted fiber lock member of the at least partial disc of the support around at least part of the circumference thereof in combination with the rest of claim 15 or 32.

It is noted that each of claims 15, 32 is allowable because the unique combination of each and every specific element stated each respective claim.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL P. MOONEY whose telephone number is 571-272-2422. The examiner can normally be reached during weekdays, M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Robinson can be reached on 571-272-2319. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Michael P. Mooney/
Examiner
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